REMARKS/ARGUMENTS

Applicants appreciate the thorough examination of the present application, as evidenced by the first Official Action. The Official Action rejects Claims 1-3, 6, 8-11, 15-18, 21, 23-27, 31-35 and 39 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,266,878 to Makino et al. In addition, the Official Action rejects Claims 1-6, 8-13, 15-21, 23-29, 31-37 and 39 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,145,022 to Takizawa et al.; and rejects Claims 1-39 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,470,377 to Sevcik et al.

The Official Action also rejects Claims 1-8 and 17-39 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More particularly, the Official Action alleges that, with respect to independent Claims 1 and 24 (and by dependency Claims 2-8 and 25-31), the method is not clearly related to the environment of the preamble since the claims are unclear as to what is performing any of the steps of the method. Also, as to independent Claim 1, the Official Action alleges that it is unclear how selected NC program(s) can be transferred across a wide area network (WAN) from central processing element(s) since the central processing elements were previously recited as being notified of the selected NC program(s). In addition, with respect to Claims 17-23 and 32-39, the Official Action alleges that the claim language "is adapted to" is vague and indefinite since it does not positively recite functionality.

In response to the Official Action, Applicants have amended independent Claims 1, 9 and 16 to more clearly define the claimed invention. In addition, Applicants have amended independent Claim 1 to recite that the central process element(s) include the NC program(s), thus clarifying how the selected NC program(s) can be transferred across the WAN. Also, with the amendment to independent Claim 1, Applicants have correspondingly amended dependent Claim 6. More particularly, Applicants have amended independent Claim 1 to include recitations from dependent Claim 6, and have correspondingly amended dependent Claim 6 consistent with the amendment to independent Claim 1. And with the amendment to independent Claim 16, Applicants have correspondingly amended dependent Claims 17-20, 22 and 23 to be consistent

with amended independent Claim 16 by renumbering the executable portions of the computer program product claims.

As explained below, Applicants respectfully submit that the invention of amended independent Claims 1, 9 and 16, and the claims that depend therefrom, is patentably distinct from the Makino, Takizawa and Sevcik patents, taken individually or in combination. As also explained below, Applicants respectfully submit that the claimed invention of originally presented claims 24-39 is patentably distinct from the Makino, Takizawa and Sevcik patents, taken individually or in combination. In addition, Applicants respectfully submit that Claims 1-8 and 17-39 are definite as required by 35 U.S.C. § 112, second paragraph. Applicants therefore respectfully traverse the rejections of Claims 24-39 as being anticipated by the Makino, Takizawa and/or Sevcik patents, and the rejections of Claims 1-8 and 17-39 as being indefinite. In view of the amendments to the claims and the remarks presented herein, then, Applicants respectfully request reconsideration and allowance of all of the pending claims of the present application.

I. Claims 1-3, 6, 8-11, 15-18, 21, 23-27, 31-35 and 39 are Patentable over Makino

As indicated above, the first Official Action rejects Claims 1-3, 6, 8-11, 15-18, 21, 23-27, 31-35 and 39 as being anticipated by the Makino patent. The Makino patent provides a Computerized Numerical Control (CNC) apparatus for controlling a plurality of machines. As disclosed, a main central processing unit (CPU) includes a random access memory (RAM), and is connected with an external storage device and an input device. In addition, the main CPU is connected to a plurality of CNC units, with each CNC unit being associated with a different machine tool. As is also disclosed, a system program for controlling the machine tools can be downloaded from the external storage device through the RAM into CPUs of the CNC units. An optional CNC unit can be selected by the input means, and thereafter the main CPU can direct a part program for controlling the machining operation on the machine to be transferred from the external storage device and stored in the RAM of the main CPU. The CNC unit can read the part program stored in the RAM, and control the machine according to the system program so that the machine performs machining of the work according to the part program.

Amended independent Claim 1 of the present application recites a method of transferring at least one numerical control (NC) program via a wide area network (WAN). As amended, the method includes selecting at least one machine tool controller from a workstation, the machine tool controller(s) being selected based upon at least one status of each machine tool controller. The method also includes selecting the NC program(s) from the workstation, and notifying at least one central processing element of the selected NC program(s) via the WAN. Then, the selected NC program(s) are transferred across the WAN from the central processing element(s) to the selected machine tool controller(s), which are electrically connected to a machine tool.

In contrast to the method of amended independent Claim 1, the Makino patent does not teach or suggest selecting at least one machine tool controller from a workstation based upon a status of each machine tool controller, selecting at least one NC program from the workstation, or notifying at least one central processing element of the selected NC program(s) via a WAN. In fact, the Makino patent does not even teach or suggest a workstation for selecting machine tool controller(s), selecting NC program(s), or notifying central processing element(s) of the selected NC program(s). The Makino patent discloses that one or more CNC units are selected from a main CPU. The main CPU then reads a part program from an external storage device (i.e., hard disk, floppy disk, paper tape reader, interface, etc.), and stores the part program in the RAM. The selected CNC units can then read the part program from the RAM and operate associated machines based upon the part program, the CNC units having a one-to-one correspondence with machine tools. In this regard, as disclosed by the Makino patent, the part program read from RAM "must be for those individual machine tools." Col. 7, ll. 27-29 (emphasis added).

Thus, as disclosed by the Makino patent, the main CPU selects the CNC units. Then, because the selected CNC units have a one-to-one correspondence with machine tools, selecting the CNC units correspondingly selects the part programs read into RAM, and thereafter read from the RAM to the selected CNC units. As the main CPU includes the part programs in an external memory device, the main CPU can correspond to a central processing element of amended independent Claim 1, with the part programs corresponding to NC programs. Likewise, the CNC units can correspond to the machine tool controllers of amended independent

Claim 1. The Makino patent does not disclose, however, a workstation or comparable entity for selecting machine tool controllers and NC programs, and for notifying the central processing element(s) of the selected NC programs.

Consider for the sake of comparison, however, that the main CPU corresponds to both a central processing element and a workstation. Even in such an instance, the main CPU does not select at least one machine tool controller based upon at least one status of each machine tool controller. As explained above, the Makino patent does disclose selecting at least one CNC unit at a main CPU. The Makino patent does not disclose, however, on what basis the CNC units are selected. Further, in such an instance, the main CPU would have no need to notify itself of NC programs it selected, much less notify itself of NC programs via a WAN, as does the workstation with respect to the central processing element of the method of amended independent Claim 1.

Alternatively, consider that a CNC unit corresponds to both a machine tool controller and the workstation. Even in this instance, the CNC unit does not select at least one part program in a manner similar to that recited by amended independent Claim 1. Instead, the main CPU selects the part program by selecting the CNC units. And because the main CPU selects the part program, the selected CNC units need not notify the main CPU of the selected part program, as does the workstation recited by amended independent Claim 1.

The Makino patent does disclose that the selected CNC units transfer a part program search command to RAM of the main CPU. However, the Makino patent only discloses that the main CPU is responsive to the part program search command to read the part program from the external storage device into RAM of the main CPU. The Makino patent does not disclose that the part program search command represents a selection of a part program, or a notification of the selection of a part program. In fact, as the part program must be for the machine tool of the selected CNC unit, and the main CPU selects the CNC unit, the main CPU need not receive a part program search command that represents a selection of a part program, or that notifies the main CPU of the selection of a part program.

Applicants therefore respectfully submit that the method of independent Claim 1, and by dependency Claims 2-8, is patentably distinct from the Makino patent. Applicants also respectfully submit that the systems and computer program products of amended independent

Claims 9 and 16, and original independent Claims 24 and 32, recite subject matter similar to that of independent Claim 1. In this regard, the systems, methods and computer program products of independent Claims 9, 16, 24 and 32 all recite selecting at least one machine tool controller from a workstation, the machine tool controller(s) being selected based upon a status of each machine tool controller. Additionally, the systems, methods and computer program products of independent Claims 9, 16, 24 and 32 all recite selecting at least one NC program from the workstation, the selected NC program(s) thereafter being received by at least one machine tool controller from at least one central processing element. Also, the computer program product of amended independent Claim 16 further recites notifying the central processing element(s) of the selected NC program(s), and then transferring the selected NC program(s).

Thus, Applicants respectfully submit that the systems and computer program products of independent Claims 9, 16, 24 and 32, and by dependency Claims 10-15, 17-23, 25-31 and 33-39, are also patentably distinct from the Makino patent for at least the same reasons given above with respect to independent Claim 1. Applicants therefore respectfully submit that the claimed invention of the present application, as embodied in Claims 1-39, is patentably distinct from the Makino patent. As such, Applicants also respectfully submit that the rejection of Claims 1-3, 6, 8-11, 15-18, 21, 23-27, 31-35 and 39 as being anticipated by Makino patent is overcome.

II. Claims 1-6, 8-13, 15-21, 23-29, 31-37 and 39 are Patentable over Takizawa

The Official Action rejects Claims 1-6, 8-13, 15-21, 23-29, 31-37 and 39 as being anticipated by the Takizawa patent. The Takizawa patent provides an injection molding system transferring a selected computer program to a controller of an arbitrary injection molding machine. As disclosed, the injection molding system includes a program control section installed outside injection molding machines. The program control section includes a program file section that stores a plurality of different programs. The program control section also includes a program transfer section that selects a computer program from the program file section, and transfers the selected computer program to the controller of an arbitrary injection molding machine. The injection molding machine can thereafter operate in accordance with the transferred computer program.

In contrast to the method of amended independent Claim 1 of the present application, like the Makino patent, the Takizawa patent does not teach or suggest selecting machine tool controller(s) from a workstation based upon a status of each machine tool controller, selecting at least one NC program from the workstation, notifying at least one central processing element of the selected NC program(s) via a WAN, and transferring the selected NC program(s) from the central processing element(s) to the selected machine tool controller(s) across the WAN. In fact, like the Makino patent, the Takizawa patent does not even teach or suggest a workstation located remote from the machine tool controller(s) and capable of notifying central processing element(s) of selected NC program(s) via a WAN. The Takizawa patent discloses selecting a computer program from a program control section, and transferring the computer program from the program control section to an injection molding machine. And as the program control section includes the computer programs, the program control section can correspond to a central processing element of amended independent Claim 1, with the computer programs corresponding to NC programs. Likewise, the injection molding machines can correspond to the machine tool controllers of amended independent Claim 1. The Takizawa patent does not disclose, however, a workstation or comparable entity for selecting machine tool controller(s) and NC program(s), and notifying the central processing element(s) of the selected NC programs.

Consider for the sake of comparison, however, that the program control section or an injection molding machine also correspond to a workstation as recited by independent Claim 1. Even in such an instance, however, the Takizawa patent does not disclose that either the program control section or the injection molding machine select injection molding machine(s) based upon a status of each injection molding machine. The Takizawa patent does disclose operating an arbitrary injection molding machine. The Takizawa patent does not disclose, however, on what basis the arbitrary injection molding machine is chosen for operation. In fact, since the injection molding machine is described as being arbitrary, it stands to reason that the injection molding machine is not selected based upon a status of each machine, but rather the convenience of the operator.

Applicants therefore respectfully submit that the method of independent Claim 1, and by dependency Claims 2-8, is patentably distinct from the Takizawa patent. As explained above,

the systems, methods and computer program products of amended independent Claims 9 and 16, and original independent Claims 24 and 32 recite subject matter similar to that of independent Claim 1. Thus, Applicants respectfully submit that the systems, methods and computer program products of independent Claims 9, 16, 24 and 32, and by dependency Claims 10-15, 17-23, 25-31 and 33-39 are also patentably distinct from the Takizawa patent for at least the same reasons given above with respect to independent Claim 1. Applicants therefore respectfully submit that the claimed invention of the present application, as embodied in Claims 1-39, is patentably distinct from the Takizawa patent. As such, Applicants also respectfully submit that the rejection of Claims 1-6, 8-13, 15-21, 23-29, 31-37 and 39 as being anticipated by the Takizawa patent is overcome.

III. Claims 1- 39 are Patentable over Takizawa Sevcik

The Official Action rejects all of the pending claims, namely Claims 1-39, as being anticipated by the Sevcik patent. The Sevcik patent provides a networked system providing networked file operations for computer numerical control. As disclosed, a networked system includes multiple workstations, each including a storage devices and a file handler. In addition, the networked system includes multiple computer numerical controls (CNCs), each linked to a machine tool. The storage devices are configured to store a file having a machine control program related to control of one or more of the machine tools. The file handlers, on the other hand, are configured to selectively transfer the machine control program to the CNC, or to run the machine control program from its location.

In contrast to the method of amended independent Claim 1 of the present application, like the Makino and Takizawa patents, the Sevcik patent does not teach or suggest selecting machine tool controller(s) from a workstation based upon a status of each machine tool controller. The Sevcik patent discloses a file handler transferring a machine control program to a designated or desired CNC. The Sevcik patent does not disclose, however, that a workstation selects the desired CNC. Likewise, the Sevcik patent does not disclose that the workstation selects the desired CNC based upon a status of each CNC. In fact, the Sevcik patent does not even disclose

selecting or otherwise designating the desired CNC, much less from a workstation or based upon a status of each CNC, as recited by amended independent Claim 1.

Applicants therefore respectfully submit that the method of independent Claim 1, and by dependency Claims 2-8, is patentably distinct from the Sevcik patent. The systems, methods and computer program products of amended independent Claims 9 and 16, and original independent Claims 24 and 32 recite subject matter similar to that of independent Claim 1. And as such, Applicants respectfully submit that the systems, methods and computer program products of independent Claims 9, 16, 24 and 32, and by dependency Claims 10-15, 17-23, 25-31 and 33-39 are also patentably distinct from the Sevcik patent for at least the same reasons given above with respect to independent Claim 1. Applicants therefore respectfully submit that the claimed invention of the present application, as embodied in Claims 1-39, is patentably distinct from the Sevcik patent. As such, Applicants also respectfully submit that the rejection of Claims 1- 39 as being anticipated by the Sevcik patent is overcome.

IV. Claims 1-8 and 17-39 are Definite under 35 U.S.C. § 112, second paragraph

The Official Action rejects Claims 1-8 and 17-39 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More particularly, the Official Action alleges that, with respect to independent Claims 1 and 24 (and by dependency Claims 2-8 and 25-31), the method is not clearly related to the environment of the preamble since the claims are unclear as to what is performing any of the steps of the method. Also, as to independent Claim 1, the Official Action alleges that it is unclear how selected NC program(s) can be transferred across a WAN from central processing element(s) since the central processing elements were previously recited as being notified of the selected NC program(s). In addition, with respect to Claims 17-23 and 32-39, the Official Action alleges that the claim language "is adapted to" is vague and indefinite since it does not positively recite functionality.

With respect to the assertion that it is unclear how selected NC program(s) can be transferred across a WAN from central processing element(s) since the central processing elements were previously recited as being notified of the selected NC program(s), Applicants

have amended independent Claim 1 to more clearly recite how the selected NC program(s) can be transferred across the WAN. In this regard, as amended, independent Claim 1 recites that the central processing element(s) include the NC program(s). And when the workstation notifies the central processing element(s) of the selected NC program(s), the central processing element(s) can transfer the selected NC program(s) to the machine tool controller(s) via the WAN. Thus, Applicants respectfully submit that the rejection of independent Claim 1 as being indefinite under this ground is overcome.

The Official Action also rejects independent Claim 1, as well as independent Claim 24 and the claims that depend therefrom, as being indefinite since the method is not clearly related to the environment of the preamble as the claims are unclear as to what is performing any of the steps of the method. The Official Action continues by alleging that the lack of clarity presents ambiguity with regard to the metes and bounds of such a claim since the steps of the method could be possibly embodied in an unlimited number of ways. Applicants respectfully submit, however, that independent Claims 1 and Claim 24, as well as the claims that depend therefrom, include all essential matter, and are in fact, definite within § 112, second paragraph. In this regard, as specified by MPEP § 2173.02, definiteness of claim language under § 112, second paragraph must be analyzed in light of the specification of the application, the prior art, and the claim interpretation that would be given by one of ordinary skill in the art at the time the invention was made. In addition, the MPEP notes that the Examiner must consider the claim as a whole to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves to provide notice to others as to what constitutes infringement of the patent.

Independent Claims 1 and 24 expressly recite that the machine tool controller(s) and NC program(s) are selected from a workstation, central processing element(s) are notified of the selected NC program(s) across a WAN, and that the selected NC program(s) are transferred from central processing element(s) to machine tool controller(s) across a WAN. Applicants respectfully submit that, in contrast to the allegations of the Official Action, the steps of the method could not be possibly embodied in an unlimited number of ways. In this regard, as recited, the machine tool controller(s) and NC program(s) are selected from the workstation. The exact entity that selects the machine tool controller(s) and NC program(s), however, is not

essential to the method as long as the machine tool controller(s) and NC programs are selected from the workstation. Further, as explained in the specification of the present application, a user or the workstation itself can select the machine tool controller(s) and the NC program(s). Pat. App. page 2, lines 5-8; page 5, lines 1-5 and 22-26; page 7, line 32 – page 8, line 2; page 9, lines 14-15; and page 9, line 33 – page 10, line 32.

As also recited, the central processing element(s) are notified of the selected NC program(s) via the WAN. Again, the exact entity that notifies the central processing element(s) is not essential to the method as long as the central processing element(s) are notified via the WAN. As explained in the specification of the present application, however, the workstation can notify the central processing element(s) of the selected NC program(s). Pat. App. page 4, lines 12-16; and page 11, lines 14-24. Further, as recited, the selected NC program(s) are transferred from central processing element(s) to machine tool controller(s) across a WAN. In this step, the central processing element(s) can transfer or otherwise upload the NC program(s) to the machine tool controller(s). *Id.* at page 4, lines 9-12 and 16-19; and page 11, line 14 – page 12, line 3.

Applicants therefore respectfully submit that the claimed invention of independent Claims 1 and 24, as well as the claims that depend therefrom, include all essential matter. Also, in light of the specification, the prior art and the claim interpretation that would be given by those skilled in the art, as specified by MPEP § 2173.02, the claims are clearly definite, and do in fact apprise those skilled in the art of its scope. Applicants also note that whereas the Official Action alleges that the steps of the method could be possibly embodied in an unlimited number of ways, the Official Action has not provided any such interpretations of the claims that are inconsistent with the claims, specification, prior art, or an interpretation of the claims that would be given to one skilled in the art. Applicants therefore respectfully submit that the rejection of independent Claims 1 and 24 as being indefinite under this ground is also overcome.

The Official Action rejected Claims 17-23 and 32-39, alleging that the claim language "is adapted to" is vague and indefinite since it does not positively recite functionality. Applicants respectfully submit, however, that functional language such as "adapted to" has been found to be definite within the terms of 35 U.S.C. § 112, second paragraph. In this regard, section 2173.05(g) of the MPEP defines a functional limitation as "an attempt to define something by

what it does, rather than what it is (e.g., as evidenced by its specific structure or specific ingredients)." In this regard, a functional limitation is often used in association with an element to "define a particular capability or purpose that is served by the recited element, ingredient or step." *Id.* Such functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210 (CCPA 1971). As such, a functional limitation must be evaluated and considered just as any other limitation of a claim. MPEP § 2173.05(g).

In numerous decisions, the Court of Customs and Patent Appeals (predecessor to the Court of Appeals for the Federal Circuit) has held that functional language is definite within 35 U.S.C. § 112, second paragraph. For example, in *In re Barr*, 444 F.2d 956 (C.C.P.A. 1976), the court held that the language "incapable of forming a dye with said oxidizing developing agent" does comply with 35 U.S.C. § 112, second paragraph. The court found that such language, while functional, does set definite boundaries on the patent protection sought. The court has also held that the limitations "adapted to be fitted," "adapted to be affixed" and "adapted to be positioned," were definite within the bounds of 35 U.S.C. § 112, second paragraph. *In re Venezia*, 530 F.2d 956 (C.C.P.A. 1976) (emphasis added). In holding the language definite, the court found nothing wrong in defining the structures of components in terms of the interrelationship of the components or the attributes they must possess. *See* 530 F.2d at 959.

Also recognizing the appropriateness of functional language, the Board of Patent Appeals and Interferences has held that the use of functional language in patent claims is definite within 35 U.S.C. § 112, second paragraph. *Ex parte Brick*, Appeal No. 2000-1794 (May 15, 2001) (non-presidential opinion). In *Ex parte Brick*, the Examiner rejected various claims of the Applicant's patent application as being indefinite under 35 U.S.C. § 112, second paragraph. The Examiner claimed that language such as "adapted to be" rendered the claim indefinite, citing *In re Hutchison*, 154 F.2d 135 (C.C.P.A. 1946), for the proposition that the language did not constitute a limitation in any patentable sense. Disagreeing with the Examiner, however, the Board found that there is nothing intrinsically wrong with the technique of using functional terminology to define claim elements. The Board thus found the language "adapted to be" definite within 35 U.S.C. § 112, second paragraph.

Independent Claim 32 of the present application, for example, recites a computer program product for controlling a plurality of machine tool controllers with at least one numerical control (NC) program, where the at least one NC program is stored by at least one central processing element, and the computer program product includes a computer-readable storage medium having computer-readable program code portions stored therein. The computer-readable program code portions include first, second and third executable portions. The first executable portion is for selecting at least one machine tool controller from the plurality of machine tool controllers. In this regard, the first executable portion is adapted to select the at least one machine tool controller based upon at least one status of each machine tool controller selected from a group consisting of an operability status, a current workload status and a future workload status. The second executable portion is for selecting the at least one NC program from a workstation. And the third executable portion is for transferring the selected NC program(s) from the first processing element to the selected at least one machine tool controller.

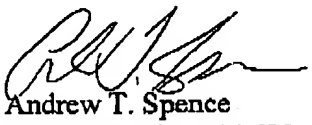
Applicants therefore respectfully submit that independent Claim 32, as well as dependent Claims 17-23 and 33-39, recites a number of interrelated computer-readable program code portions of a computer program product, where the executable portions are all, directly or indirectly, coupled to one another. Thus, Applicants respectfully submit that each respective claim that defines an element in terms of a function for which the element is "adapted to" be used is definite within 35 U.S.C. § 112, second paragraph. As such, Applicant respectfully submits that the rejection of Claims 17-23 and 32-39 as being indefinite under this ground is also overcome.

CONCLUSION

In view of the amendments to the claims and the remarks presented above, Applicants respectfully submit that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicants' undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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Sarah B. Simmons — June 25, 2004
Sarah B. Simmons — Date